ITEMS OF INTEREST.

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Shots from the Profession.

DENTAL MATERIA MEDICA.

PROF. L. C. INGERSOLL.

[We extract the following from Dr. Ingersoll's admirable text book, *Dental Science* for students.—Ed. ITEMS.]

STIMULANTS.

Capsicum is admirably adapted to the relief of chronic inflammations, indurations, peridental inflammation, incipient abscess, and as a general pain obtundent. In combination with Chloroform and Tinct. of Aconite, equal parts, applied externally, as a compress, it acts promptly.

Oil of Cloves is a prompt and active stimulant and astringent. It is generally prompt in quieting the pain of an exposed pulp, and peculiarly adapted to children's teeth, and demineralized dentine. It is only slightly antiseptic, but being stimulating and astringent it is indicated in superficial and deep-seated ulcers.

Pure Creosote is a distillation from wood tar, of which it retains the odor; it is a nearly colorless oil; a stimulant, prompt in action, creating a sharp stinging and burning sense in the mouth; promotes an active circulation in the parts with which it comes in contact; combined with Oil of Cloves, equal parts, it is one of the most valuable pain obtundents in use for exposed pulp.

Iodine is obtained from the ashes of sea-weed. It is found in the shops in the form of flat purple-colored *crystals*, with a metallic luster, and as a *tincture*. It promotes absorption of abnormal growths and swellings, allays inflammation of the alveolo-dental membrane, and arrests abscess. For use, dissolve 1 oz. Iodine crystals, in 12 of alcohol; or ½ oz. Iodide of Potassium, ¼ oz. Iodine, and 3 oz. warm water. First dissolve the I. P. The acqueous solution is preferable because water is more readily absorbed by the gum than alcoholic preparations.

TONICS.

Sulphate of Zinc or white Vitriol is tonic, astringent, and in its full strength, caustic. In its caustic strength it causes too much pain. One to five grains to the ounce of water is its usual form of use. It is insoluble in alcohol. Sulph. Zinc. is specially indicated in chronic ulceration, not of a malignant character, and debilitated function in a part. It reduces inflammation, by its astringency contracting and depleting the blood vessels. It is valuable in ulcerative conditions of the gum about the necks of the teeth and in peripyema.

Camphor is a white, tenacious and translucent gum, with a pungent, penetrating and fragrant odor; it is soluble in alcohol, acetic acid, chloroform and the fixt oils; alcohol forms a 75 per cent. solution. It is sedative, tonic, and gives a sense of coolness. It acts primarily on the nerves, and secondarily on the vascular system.

NARCOTICS AND SEDATIVES.

Opium is a gum obtained from the poppy. It is a very poisonous drug, producing sleep and death. In small and diffused quantities it is used as a sedative, acting on the nervous system. Laudanum is a tincture of opium,—1¼ oz. opium to 1 pint of equal parts of alcohol and water. Wine of opium is 2 oz. powdered opium, 75 grs. each of powdered cloves and powdered cinnamon, macerated in 1 pint Sherry wine for seven days, then filtered. By age it loses its sedative effect. For our use the wine of opium is preferable.

Tinct. Aconite is a powerful and active poison. Applied externally, its first effect is stimulant, its secondary effect, sedative. Two preparations valuable as a liniment in neuralgic affections are 1. Equal parts of Tinct. of Aconite and wine of Opium. 2. Equal parts Tinct. of Aconite, Alcohol, and Chloroform.

The latter is safest to be applied as a local anesthetic in the mouth.

STYPTICS.

Styptics are agents which tend to arrest hemorrhage.

This is accomplished in three ways: By co-agulating the blood at the mouths of the bleeding vessels, by contracting the vessels, and by compression artificially.

ASTRINGENTS.

Tannin, alum, persulphate of iron, and the concentrated extract of hamamellis are powerful astringents. The first two should be used in the dry state, but may be used in solution.

Persulphate of iron is a reddish-brown, heavy powder, a powerful astringent and mild caustic. For dental use the powder is preferable to Monsell's solution.

To arrest severe hemorrhage occurring after extraction of teeth,

the use of persulphate of Iron is excellent. Take a pellet of cotton or sponge, little larger than a pin's head, moisten with water and pass it into the open socket to the very bottom, holding it there for a moment to allow time for a firm coagulum to form, then gently remove the instrument.

The hemorrhagic diathesis indicates the use of a compression. In such patients secondary hemorrhage is liable to occur; then compression is indicated. Fill the socket loosely with cotton, covered with tannin or powdered alum, then form a pad of linen cloth, covering one surface with tannin, bring the jaws together on the pad, and bandage over the head and under the chin.

ANTISEPTICS.

Antiseptics are used to prevent putrefaction. Salt, sugar, spices, vinegar and alcohol are antiseptics. So are creosote, carbolic acid, phenol-sodique, salicylic acid, iodoform, alcohol, eucalyptus oil.

Creosote and Carb. Acid are distinguished in several ways: 1st. By the sources from which they are derived; the former being a distillation from wood tar, the latter from coal tar. 2nd. By their chemical relations; *Creosote* being an oil, and *Carbolic Acid* an alcohol; *Creosote* being a liquid non-crystallizable, and *Carbolic Acid* always, in its pure state, crystallizable, is not soluble in water, and *Carbolic Acid* is readily soluble in 5 per cent. of water, and in any proportions by the addition of glycerin. 3d. By their difference of medicinal properties, pure wood Creosote is not a caustic; carbolic acid is a powerful caustic; *Creosote* is not a germicide; *Carbolic Acid* is a prompt germicide for most micro-organisms.

Phenol-Sodique is formed by the action of caustic soda on impure carbolic acid. Cresylic picric acids are sometimes combined with it; both good antiseptics and not objectionable in the conbination. It derives its name from *Phenol,* the name formerly given to crude carbolic acid. Its uses are the same as creosote.

Salicylic Acid is a white, light, feathery powder, having a slightly sweetish taste, afterward stinging. Alcohol, ether, glycerin and hot water are its solvents. Alcohol dissolves it freely; cold water sparingly. The alcoholic solution is an excellent dressing for root canals previous to filling.

Iodoform is in the form of small, pearly, yellow crystals, volatile and of a disagreeable odor, which may be disguised by combination with oil of cloves or eucalyptus oil or both. It is a preparation of *Iodine* obtained from the alcoholic solution of Iodide of Potassa. It is soluble in alcohol, chloroform, and the volatil oils, but insoluble in water. It is stimulant, anæsthetic, tonic; a valuable antiseptic and sedative for supperating surfaces; it is of the nature of a specific in

treatment in teeth in which the pupils have died spontaneously; it promotes cicatrization; it is valuable combined with chloroform solution of gutta percha and the oxichloride of zinc for filling root canals; although it contains 75 per cent. of iodine, it is non-irritant.

Eucalyptus is a distillation from leaves of the Eucalyptus tree; it is an aromatic sedative and a good antiseptic. Combined with Iodoform it is highly recommended in treatment of suppurating pulps and incipient abscess, also in treatment of caries of the alveolar process, and in necrosis.

DISINFECTANTS AND GERMICIDES.

Disinfectants deodorize, neutralize and sterelize the products of decomposition and putrefaction. Germicides destroy the micro-organisms concomitant with putrefactive decomposition. Carbolic Acid, Chloride of Zinc, Sulphate of Iron, Permanganate of Potassa, Peroxide of Hydrogen, Bichloride of Mercury, Aromatic Sulp. Acid are good germicides.

Carbolic Acid has long been considered the best disinfectant known. Though active as a disinfectant, *all* the products and concomitants of putrefaction are not destroyed by it, which is probably true of every drug in use for disinfecting purposes.

Chloride of Zinc, formed by the action of hydro-chloric acid on metallic zinc, is a white crystaline mass, readily deliquescent on exposure to the atmosphere, and wholly soluble in water. Medicinally, it is an escharotic, and an astringent and powerful disinfectant. Used as an escharotic it causes severe pain. It is used in phagedenic ulceration of the gums, peripyema, caries of the alveolar process and necrosis. 2 to 10 grains to the ounce of water is the usual preparation. It is also valuable in the roots of teeth where putrescent matter is found.

Sulphate of Iron, copperas, dissolved in twice its weight of cold water, or three fourths its weight of hot water, is very useful to cleanse spittons, slop pails and sinks.

Permanganate of Potassa is obtained by the action of manganic acid on caustic potash. It forms in long blue-black quadrangular or prysmatic crystals. It is used in solution of from 5 to 20 parts, by weight, to 100 of water. It is convenient to form a 20 per cent. solution as a standard of strength, then redu e as needed. It is one of the most powerful disinfectants known; has extraordinary power in destroying fetid odor from organic sources, poisonous emanations from gangrenous ulcers, abscesses and wounds of all kinds. As an oxidizer it is not second to peroxide of hydrogen. It is valuable in treatment of deep-seated ulceration, caries of bone and necrosis.

Peroxide of Hydrogen consists of water with an additional equivalent of oxygen, united in the nascent state. It is a powerful oxidizer,

freely parting with its oxygen at the temperature of 60°, hence should be kept in a close stoppered bottle in a cool place. Tobacco, aconite and other narcotic substances restain its action, and contact with platina or gold increases the activity with which its oxygen is liberated, hence it can be applied most effectively with a gold or platina instrument.

Bi-Chloride of Mercury, Corrosive Sublimate, is stimulant, antiseptic, disinfectant and powerfully *germicide*. In a strong preparation it is a dangerously escharotic. It is used chiefly as a germicide. The preparation for common use in ulceration and in treatment of peripyema (*pyorrhœ adveolaris*?) is 1 gr. Bichloride of Mercury and 40 drops of alcohol to 3 ounces of water.

Aromatic Sulphuric Acid in full strength is mildly caustic and a good disinfectant. It is astringent, and in its milder solutions is stimulant and tonic. It is used in peripyema, caries of bone, and necrosis; also in mercurial sore mouth and salivation. For ordinary treatment it should be reduced 50 per cent.

LABORATORY HINTS.

DR. J. H. BEEBE, ROCHESTER, N. Y.

Cracked Gums.—When a student I was continually troubling my preceptor by producing cracked and splintered gums and broken sections, and for a long time after I had entered practice I strove to find the cause. I labored carefully to make fine joints, and alas! often when I had bestowed the utmost care my cases would come out with a nicely defined diagonal fracture, beginning at a point about the middle of one of the front sections and running to a point over the lateral incisor. I studied journals and asked questions and received various answers, such as "contraction of the rubber," "the fracture is made in removal of case from plaster," "too much pressure in closing flask," "improper or insufficient gateage for overflow."

I tried a remedy for every one of these, but with very little success. It is true, the contraction of the rubber is the active cause, and generally produces it, but as a usual thing this cause is easily obviated by a simple rule of seven words: "Make a perfect joint in front and rear." Do not allow the sections to meet, only at the surface of their respective gums. The surface of the gums are almost always convex, and if the joint is open on the lingual side of the section, the two sections only touch at one point, and do not support each other; while if the joint is properly made they will be in contact from the top to the bottom, and will mutually support each other, like the stones of an arch.

Another cause is *improper waxing*. Many persons allow too

much wax to overlap the gum, giving place for a large and strong mass of the rubber to flow over and contract on the porcelain. This being objectionable, it is best to grind off the little tongue that runs along the upper edge of some of the older patterns of teeth.

Many sections are cracked also by setting the case improperly in the plaster. The wax around the gums should always stand above the surface of the plaster in the drag or lower part of the flask. If not, when the case is parted for packing, the edges of the gums will stand above the surface of the plaster in the cope or top of the flask and be unsupported; and when the flask is brought together, the plaster in the lower part is apt to press against the gum, especially if a little rubber gets in, or if there is imperfectly fitting guide-pins on the flask.

Dark Joints.—There are various causes that creep in to render the cases we often wish to be our best, anything but what we could desire. First of all, the great cause is not rubber, but *wax*. You may grind your joints ever so carefully, and boil them or rinse them with hot water ever so thoroughly, but if there is a particle of wax in them, or if a particle has been in, you may look for discoloration. Take a piece of glass or porcelain, and melt some wax on its polished surface, and boil it in water ever so long, and still if it is not rubbed it will remain greasy, and the heat of vulcanizing is sufficient to discolor it. Now a ground surface, like that of a fitted section, is far more difficult to clean than a polished surface; then, too, hot wax is a solvent of rubber, and will lead the vulcanite into the joint. How can this be avoided? By simply keeping the wax out, by keeping the ends of the sections wet. If wax gets on them grind it off, for you cannot clean it.

One other cause. I noticed a brother in the profession, the other day, grinding up a case, and to see what kind of a joint he was making, he touched the sections with the tip of his tongue, thus wetting the joints. If any saliva gets into a joint before vulcanizing, there will be discoloration, as the organic substance contained in it will char and blacken under heat.

Every joint should be thoroughly protected, and the best article for this purpose undoubtedly is oxyphosphate. I usually, when the case is waxed, cover the joint externally with it, allowing it to flow somewhat over the wax, and when the case is parted in the flask, cover the anterior portion of the joint, also allowing the cement to meet that which I first applied, thus surrounding the joint with a solid wall.

Dark joints are also caused by great pressure in closing the flask. This is very easily obviated by being careful of the amount of rubber put into the mold. One of the simplest, and I think the best way to

avoid this, is a process taught, I think, in the Philadelphia Dental College. It is to heat the top of the flask (the part containing the teeth), having previously placed an amount of rubber that would be a little less than enough for the case. Now put over the cast a piece of the cloth, wet, such as is found between the sheets of rubber, and from which *nearly* all, not *all,* of the starch has been washed; bring the flask together under the press, and force it home; open it; remove the cloth, and it is easy to see where material is needed or to be removed; gate the case well, and screw up and vulcanize.

To Produce a Good Finish on the Palatine Surface.—When at Buffalo, last fall, we were favored with some instructive remarks on vulcanite work, by Dr. A. P. Soutwick. He advocated the use of silex as a preparation for the cast, to produce a good finish on the palatine portion of the plate. I have tried his method, but I find I prefer tin foil, for though this process gives a good surface, the tin gives a better. My mode of operation has its peculiarities, and insures the easy separating of the tin from the plate.

After having determined, as above mentioned, the amount of rubber needed, varnish the cast thoroughly with silex, and lay on a piece of No. 3 tin foil; press and smooth it thoroughly on the cast, using a pledget of cotton, or, better still, a rabbit's foot; do not use your fingers, as you are apt to grease the surface, and if that is done, ever so slightly, you may look for the tin to stick. Now soak a piece of the cloth used between the sheets of rubber, till its starch is softened, and with a soft hair pencil apply this starch to every part of the exposed surface of the foil that is on the cast, and before it has time to dry, bring the flask together and bolt it. If you desire to boil it, before bringing it fully down, press it together fairly well so that no water can get in and wash out the starch.

By following these directions the tin will often come off on the cast, leaving an almost polished surface—so good, in fact, that in making regulating plates, it is not necessary to finish to a greater degree than this gives, if placed beneath the springs. Should by chance any of the tin become fastened on the surface of the rubber, it is very easily removed by wetting a piece of cotton with dilute muriatic acid, and having sprinkled the offending surface with a few drops of mercury, rubbing with the cotton. The acid cleans the tin and allows the mercury to amalgamate, and in this state the tin is easily washed away.

Another simple little process was told me, awhile ago, by a friend in the profession, and which I find is quite a valuable hint. It is in regard to the process of burying the teeth in the plaster, in cases where it is deemed best not to pull them from the wax. It is to set the case

in the top or cope of the flask, just as though it were the ordinary bottom or drag. The cope, usually being deeper than the drag, it enables one to bring the cutting edge of the teeth level with the top of the inverted metal rim, thereby gaining more strength than is obtained with an unsupported raised rim of plaster. After the plaster becomes hard, and has been varnished, cover its surface with soft plaster, and also fill the drag with the same, and bring them together, and when hardened proceed as in the ordinary work.

I wish to speak in favor of Gilbert's varnish that has lately been placed on the market. It is intended for use in the laboratory. With it no oil is needed, and it gives to the surface of a cast an almost polished smoothness, and the softness often seen on plaster surfaces, where oil is used, is entirely absent, and consequently a more accurate cast is produced, and more perfect surface on the plate.

One thing I must warn you of in using dry heat in packing: You must be careful not to heat your case too hot, for the penalty will be porous rubber. If the rubber is once heated, so that it is porous, it will always remain so.—*Odontographic Journal.*

FLORIDA'S NEW DENTAL LAW.

An act to provide for the appointment of a Board of Examiners and to regulate the practice of Dentistry in the State of Florida.

Be it enacted by the Legislature of the State of Florida:

Section 1. That from and after the passage of this act it shall be unlawful for any person to engage in the practice of dentistry in the State of Florida unless said person shall have obtained a certificate from a Board of Dentists, duly authorized and appointed under the provisions of this chapter to issue certificates.

Section 2. That the Board of Examiners shall consist of five dental graduates or practitioners of dentistry appointed by the Governor; *provided*, that said graduates or practitioners have been practicing in the State of Florida for a term of not less than three years; said Board shall be appointed to serve two years. The Governor shall have power to fill all vacancies in said Board for unexpired terms.

Section 3. Be it further enacted by the authority aforesaid, That it shall be the duty of this Board, first, to meet annually, or oftener, at the call of any three of the members of said Board; thirty days' notice must be given of the annual meetings. Secondly, to prescribe a course of reading for those who study dentistry under private instructors. Thirdly, to grant certificates to all applicants who undergo a satisfactory examination. Fourthly, to keep a book in which shall be registered the names of all persons licensed by said Board to practice dentistry in the State of Florida.

Section 4. That three members of said Board shall constitute a quorum for the transaction of business, and should a quorum not be present on the day appointed for their meeting, those present may adjourn from day to day until a quorum is present.

Section 5. That one member of said Board may grant a certificate to an applicant to practice until the next regular meeting of said Board, when he shall report the fact, at which time the temporary certificates shall expire; but such temporary certificate shall not be granted by a member of the Board after the Board has rejected the applicant.

Section 6. That any person who shall in violation of this act practice dentistry in the State of Florida, be deemed guilty of a misdemeanor, and upon conviction shall be punished by a fine of not less than twenty-five dollars, nor more than five hundred dollars; *provided*, that nothing in this act shall be construed to prevent any person from extracting teeth; and *provided further*, that none of the provisions of this act shall apply to regulate licensed physicians and surgeons in practice at or prior to the passage of this act.

Section 7. Every person practicing dentistry in the State of Florida shall, within six months after the passage of this act, register his name, together with his post-office and the date of his certificate, in the office of the Clerk of the Circuit Court of the county in which he practices, and shall on the payment to such clerk a fee of fifty cents, be entitled to receive from him a certificate of such registration.

Section 8. Every person practicing dentistry in the State of Florida at or prior to the passage of this act shall be entitled to receive from the Board of Dental Examiners a certificate to practice without undergoing an examination, or application by letter or otherwise; *provided*, that all such persons make application to said Board within six months after the passage of this act.

Section 9. That all laws and parts of laws in conflict with this act be, and the same are hereby repealed.

Approved June 7th, 1887.

An exchange refers to it as a singular fact that bricklaying is one of the parts of skilled labor that invention has never interfered with. Bricks are laid one by one to-day as they were in Egypt and Babylon four thousand years ago. It might also have added that bricks are put into the hat in about the same way as in the time of Noah.

NATIONS, like individuals, are punished for their transgressions. We got our punishment in the most sanguinary and expensive war of modern times.—*General Grant.*

LIFE IN A TOOTH.

PROFESSOR CARL HEITZMANN, NEW YORK.

Where there is sensibility and sensation there is life. Therefore our teeth are composed of live tissues. These are considerations which necessarily urge us to investigate the question, Where is this life located? Which is the substance that is the bearer of life? It cannot be denied that large quantities of both organic and inorganic substance are stored in the teeth; but there must be something else, which we may call living substance proper, and though we cannot watch and study the changes in its form directly by comparison with other tissues of the body, we must come to the conclusion that we have to deal with living material. During the last six or seven years this question has been very actively investigated in my laboratory, and I am now giving you a brief outline of the researches made there, mainly by Dr. Bödecker.

We can now see the living substance partly without and partly with the application of certain re-agents. This new method is to soften the teeth by extracting the lime salts with a dilute chromic acid solution, which at the same time preserves the soft tissues or living material. Another method is to grind a fresh tooth, keeping it moist and preserving the living substance either with chromic or osmic acid. Then if we place a thin section under the microscope we may place the living material in it.

Examining the general structure of the teeth, we find there are four varieties of tissue, the main portion of the teeth being composed of dentine, its center being hollowed out and occupied by the pulp, a myxomatous tissue, supplied with blood-vessels and nerves, the roots being covered with a structure which we call cement, and the crown with another structure called enamel. We perceive, by looking at the dentine with a low power, that it is traversed by canals, which were thought to be carriers of lime salts till the discovery was made that they are not only hollow, but contain in their center a solid thread, the dentinal fiber. This latter, curiously enough, was first seen by a draftsmen employed by the celebrated Richard Owen, who represented it by a dot in the center of a transverse section of the dentinal canals, though Richard Owen does not make any allusion to it in the text of his Odontography. It was the elder Tomes who first describrd these fine threads, and he at the same time expressed the opinion that they might be nervous in nature. Though not positive in this assertion, he suggests the possibility of these fibers being nerves, which may account for the very marked sensibility of the dentine. These fibers in the center of the dentinal canals are not perfectly round, but angular, and are evidently surrounded by some liquid. If we use a re-agent for

bringing out the living substance in the different tissues, namely, chloride of gold, we soon come to the conclusion that this cross section of the dentinal fibril is by no means smooth on its circumference, but that it sends out off-shoots toward the wall of the dentinal canals. Along the periphery of the latter we notice very small perforations, traceable into the basis-substance which surrounds the dentinal canals, and entering into a light, delicate network therein. The basis-substance is far more dense at the periphery of the dentinal canals, than at some distance between the canals, a fact first brought to our notice by E. Newman. We satisfy ourselves regarding the fact that the fine conical off-shoots of the dentinal fiber are directed toward the perforations in the wall of the canal, and if we have been lucky in applying the chloride of gold solution—Dr. Williams was so fortunate—we can trace the off-shoots into the dentine and see a delicate network throughout the basis-substance of the dentine. Thus we come to the conclusion that the whole basis-substance is pervaded by an extremely delicate network which exhibits all the properties and characteristics of the dentinal fibers and of living material. Dr. Bödecker proved the presence of this network without directly proving its being living substance. His proof was indirect, inasmuch as we see in every inflammatory process of the dentine that it breaks down to its embryonal condition, splitting up into the medullary elements from which it grew. What we can say to-day is that the dentinal fibers running from the pulp tissue toward the enamel are formations of living substance, and that the whole basis-substance between the dentinal canal is supplied with living substance too—in short is alive. The meshes of this network contain a gelatinous, glue-yielding basis-substance, which is infiltrated with lime salts.

CORROSIVE SUBLIMATE IN DISINFECTING PULPLESS TEETH.

We have used nearly all the antiseptic fluid disinfectants and germicides that have, up to this time, been experimentally known in the treatment of pulpless teeth, and in looking over the list we feel free to mark many of them "good."

Faithful work will bring about good results with many of these articles, while bungling or careless manipulations will produce only failure and disappointment with the best. We do not rely solely on any one of these agents in the treatment of pulpless roots.

We wish to speak of one here, but not to introduce it as one of our hobbies.

For the past twelve months we have been using bichloride of mercury a great deal, and we think the results warrant us in giving it an extra good mark on our list. Our experiments have, so far, been

confined to the officinal aqueous solution, which is one and one-quarter grain, or one and one-half grain to the ounce. No doubt it might be employed in much greater strength with safety, if care were taken to confine it strictly to the pulp canal. Just here, however, we would speak a word of caution: Do not introduce this medicament in great strength into a foul canal and stop it up there, for it *might* be injected by the gases that could possibly arise into the alveolus, and produce corrosive sublimate poisoning. We think no harm could come of the officinal solution, stopped up however long, in the small quantities a tooth would hold.

"Ah! ha!" you say, "then you don't rely on it to hold chemical decomposition in abeyance?"

Well, yes, we rely on it more than any other agent we know for this very thing, but we don't take a loaded gun and snap it at our head because the powder is supposed to be wet. How can you tell that every atom of sulphur and hydrogen in such tooth is separated and fenced about with your bichloride of mercury? They might get together and do no harm; then, on the other hand, the devil might be to play. Take no risks.

We have been proceeding cautiously, and thus far have not had a single sore tooth after opening. We have relieved many that were very sore before opening. After opening the tooth we wash out freely with tepid water; and, if there has been much previous soreness, we let this suffice for the first sitting, permitting the canal to empty itself by drainage as much as possible. At the next sitting we introduce our solution of bichloride of mercury, on a fine well-tempered broach, wrapped with a little long-fibered cotton, taking care not to force any thing through the foramen. This will sometimes occur in spite of all our caution, and we think it has often happened in our own hands, so far without bad effects. No uneasiness need be felt about mercurial poisoning from the mild officinal solution in the event of this accident, and there will be almost no danger of poisoning the soft parts with septic matter from the tooth, provided the bichloride of mercury goes through with it.

After repeated wiping with this agent, we lay it aside and take up alcohol, cleansing in like manner with this thirsty fluid to extract the foul water from the dentine by capillary attraction. As soon as soreness is all gone, and we are sure the canal is clean, we proceed to fill. —NOEL, *Dental Headlight.*

If you want knowledge, you must toil for it; if food, you must toil for it; and if pleasure, you must toil for it. Toil is the law. Pleasure comes through toil, and not by self-indulgence and indolence. When one gets to love work, his life is a happy one.—*Ruskin.*

THE CHARACTERISTICS OF EROSION.

DR. E. C. KIRK, PHILADELPHIA.

Erosion may attack any of the teeth, but is commonly manifested in the anterior teeth, and most frequently in those of the upper jaw. The disease may commence as a single minute pit or depression on any portion of the labial enamel surface of a tooth, gradually extending its borders till the whole outer enamel is removed, or it may progress in only one general direction, which may be in the line of the vertical or horizontal axis of the tooth, in the form of a tortuous groove, presenting in the latter instance the appearance of a piece of flooring which has been worm-eaten. Again, several pits or depressions may make their appearance at the same time, and by gradual extension of their margins finally coalesce to form irregularly shaped areas, which are completely denuded of enamel. Still another manifestation of this peculiar disorder is seen in cases where the whole labial enamel surface of the six anterior teeth is completely and evenly removed, while their proximal surfaces are unaffected. Such dentures present an appearance exactly similar to that which would be produced by evenly grinding off the whole of the labial enamel of the six anterior teeth, giving them a flattened appearance on their labial aspect, in addition to the peculiar laminated effect produced by the alternate layers of denuded dentine and the enamel of the proximal surfaces, which has remained intact, the teeth being actually viewed in cross section.

Two such cases have come to my notice in which the denuded surface was perfectly regular and even, and, like all cases of true erosion, which has its expression in dense, hard tooth-structure, it was highly polished. Still another condition of eroded teeth is frequently observed, in which the denuded area has a wavy or undulating surface, the long axes of the elevations and depressions corresponding with the horizontal axis of the tooth. In such instances the loss of tissue is generally greatest at or toward the cutting edges, which finally become involved till occlusion of the anterior teeth becomes impossible, owing to the shortening occasioned by loss of structure. This is probably but a more advanced stage of the condition just described. Two other manifestations of erosion are met. The first one, which is most common, and which is undoubtedly responsible for much of the difference of opinion and confusion which exist as to the cause of the malady, is that which occurs at the necks of the teeth, just at the free margin of the gum, and the simplest expression of which is a narrow transverse groove, highly polished and varying in depth from a shallow depression to a cavity which may nearly invade the pulp-chamber. It is noticeable in this expression of erosion that the enamel margins of the eroded spots frequently project or overhang, presenting sharp edges or

points which may become sources of irritation to the tongue or lips.

Also, when the disease has sufficiently advanced, the contour of the margin of the eroded area presents a ragged or irregular appearance, which in the earlier stages of the disease presented an almost straight or an unbroken curved line, points or prolongations of the eroded area extending in the line of the vertical axis of the tooth toward its cutting edge. Lastly, erosion may cause loss of enamel from the proximal surfaces, while the labial and lingual surfaces are comparatively unaffected. This condition I have never observed except in the lower front teeth, and then only when they were somewhat separated.

Any tooth in the upper or lower denture may be the seat of erosion, and pulpless teeth as well as those which are otherwise normal. Whatever may be its origin, the disorder is progressive. the action extending not only in the plane of the labial surfaces, but into the deep structures of the tooth, until the pulp-chamber becomes invaded by the deepening of the eroded spots. Actual exposure of the pulp from erosion is, however, a comparatively rare occurrence, as the progress of the disease apparently induces a deposition of secondary dentine in the pulp-chamber, and consequent recession of that organ. Fracture of the teeth at their necks, however, is not infrequent, when by reason of extension of the disease the tooth becomes so thin that only slight mechanical violence is necessary to induce a sudden separation of the crown from the root of the tooth. The progressive character of erosion is fully and graphically shown in those cases where in its early stages the pits or depressions which are the seat of the disease have been carefully filled and the contour restored with gold. These, after a time varying with the activity of the morbid process, will be found to exhibit a most peculiar appearance, the tissue surrounding the gold filling having apparently melted away from it by some processs which, apart from the fact that a cavity is its result, has no points of similarity with the ordinary manifestations of caries. The margins of the eroded areas have extended far beyond the gold filling which marked their original limits. The cavity has deepened and the filling stands out like an island in a small lake, with not even a trace of any of the usual products of disintegration of tooth-structure always observable as the result of carious action. Moreover, the entire surface which is the seat of erosion is clean and highly polished.—*Cosmos.*

The Surface of Heated Gutta-Percha touched with warm eucalyptol, before placing it in a cavity, will be found after heating, to adhere like paint to porous wood. The gutta-percha must only be moistened on the side which is to be introduced, and then very slightly.—*Dental Review.*

A SUPERNUMERARY CROWNED.

About fifteen years ago, Mr. E——, a jeweler of this city, had his left upper central incisor extracted because it was only half as large as its mate, and gave a peculiar expression to his mouth. Since then he has been wearing a false tooth on a plate. About a year ago his gum became sore, and on examining it, I found he was getting a new tooth. In about three months the new tooth was fully developed, and proved to be a supernumerary, probably the other half of the original, which had become divided while it was a germ. The tooth was round and pointed, about one-eighth of an inch in diameter, and looked like a bean sticking in his gums just above his false tooth, which, no doubt, had prevented it from coming down in a line with his other teeth. About a week ago his plate broke, and he called on me to have it repaired. I suggested having a crown put on the "tush," as he called it. He consented. I first drilled a hole from the point, and struck the nerve about one-eighth of an inch deep. It was not very sensitive, and was easily removed. The entire length of the tooth was less than five-sixths of an inch. A cap was fitted around the tooth, and a platina pin reaching to the end of the root was soldered to it. A band was then fitted around the lateral incisor, near the margin of the gum, to give extra support, and soldered to the cap. I then backed up a plate tooth of the proper size and soldered it to the cap, and fastened the whole in position with cement. W. SLOAN.

Peoria, Ill.

[Would it not have been better so to have capped this tooth as to have saved it alive?—Ed. ITEMS.]

HOW TO ELEVATE THE PROFESSION.

DR. PARSON SHAW, ENGLAND.

The profession of dentistry is made of a certain number of dentists, and the only way of elevating this profession is to elevate its component parts; and the elevation of these parts is the work of each one of these parts. If any gentleman is anxious, therefore, to do his best to elevate the profession, let him begin with himself, and become a better man and a better dentist. And there is no better way to make a start in the right direction than to join a good dental society. It should be understood that to elevate the few will not answer, for privilege has never bred anything but vulgar pretentiousness. We really cannot much elevate the few above the many; and in spite of all the attempts to create artificial distinctions, the character of every people will always maintain a pretty general average. It was a wise remark of Hiram Woodruff, the great trainer of American trotting horses, that it was useless to expect one horse to

be much better than the average; and if better horses were wanted we must increase the general average to a higher standard. This fact is true in everything. To sum it all up, if we want to elevate our profession we must begin by elevating ourselves; and then do all in our power to assist the humblest member of the profession in his efforts to elevate himself. In this way (and in this way only), shall we make progress; and as this progress is made, it will be apparent to all whose good opinion is worth having. You may educate the dentist in art as much as you please, and make his examinations as stiff as possible, and you may load him down with titles, yet he can do nothing toward elevating himself or the profession till he understands that all this is but the mere beginning of his future studies, and he resolutely applies himself to the task of acquiring skill at his work. The place where he will gain the greatest practical knowledge which is necessary to his success will be his own surgery and workshop. After that, his best knowledge will be obtained in the local dental society which he can most frequently attend.

THE RIGHTS OF PATIENTS.

DR. W. E. DRISCOLL, MANATEE, FLA.

Several recent articles in the ITEMS speak of the difficulties met in dental practice to overcome preconceived opinions of patients when they are wrong as to what should be done for them. These communications enumerate a few points on which dentist and patient are likely to differ, and the unpleasant results growing out of clashing of opinions. One of the first requisites in the character of the dentist is the necessary tact to *avoid* such contests. If we stop to think we will recall times when *we* have insisted on a certain course when *we* should have remained silent. If we do not watch ourselves this disposition to meet suggestions of the patient with opposition will grow on us, till we find ourselves assuming positions hastily that must afterward be abandoned. The dentist has a wide field in which to maneuver before an actual contest need be brought on. Many patients will not insist on a certain plan, if their pugnacity is not excited unnecessarily. Observing these hints will greatly reduce these differences.

Some patients will yield after a full statement of their views, that would not do so before, because they think you may not have thought of their theory. How much their respect for you will be enhanced if you can show to their satisfaction that you have thought of that plan, and proceed to give good reasons why it will not do to adopt it. It is good policy, and justifiable in the dentist to yield, if the patient will not, if it is something that can be changed when the patient finds he has been mistaken. The bearing of the dentist has much to do with

the confidence his patients have in his judgment. If he is silly and frivolous in his conversation, his patients should accept his judgment with caution. There are dentists and physicians who make the mistake of supposing that it strikes all observers with awe for them to assume to be able to tell all about a case across a room on first entering. The very ignorant are so impressed, but there are many persons who know a careful examination is necessary to a proper decision.

To prevent these contests with patients the dentist is justified in improving his first suitable opportunity to converse with a patient, or an expectant one, with discretion, on such dental subjects as he finds the patient needs information. With proper foresight the patient can easily be impressed with the belief that the dentist is well versed in the theory and practice of his profession.

I have known patients who had experienced very unsatisfactory service at the hands of one dentist, and then, on having something done much better than they supposed was possible by another dentist, they were so impressed by the skill of the latter as to give him their unreserved confidence, when before it was almost impossible to get their consent for any operation. This kind of demonstration of judgment will silence all opposition. We should make every operation a standing proof of our ability and faithfulness.

A DENTAL EDUCATION.

DR. PARSON SHAW, ENGLAND.

So far from the system of cram, which is the delight of the school, being a means for properly training the mind, it merely enlarges the capacity of the external memory, which is its very lowest power, and the region where facts are stored only for a time. The mind is never properly trained till it has been taught to so thoroughly master a subject that it enters into the internal memory, and there becomes a part of the mental organization. The reasoning power of a child begins with its observation, and will develop by practice, if unchecked. But when cramming has the absolute monopoly in just those years when the reason ought to be developed, not only does this system of education fail to teach the student how to reason, but it tends to destroy his reasoning powers, by devoting his time and capacities to the mere acquirement of facts instead of training him in those subjects in which he could use the supreme faculty of his mind. The school, even with its ruts, its classics and its cram, is a necessity, for a time, in our early career; but what it has to learn is that it is but the lowest stepping stone to education, and not its be-all and end-all. A young lady who has received, at the educational establishment of some Miss Pinkerton, what that very "superior" person would call "a finished

education," is a lamentable instance of the truth of what I am saying. One great obstacle to a proper education is the silly pretense of the men with a little knowledge of the classics, and next to no knowledge of anything else. To listen to them one would be led to suppose that ever so little knowledge of the classics was not only an education in itself, but that it insured a mental training superior to all else. That pompous individual, Sir William Harcourt, once said, in reply to Prof. Huxley, who maintained that the study of science was culture, that a man could not either speak or write the English language correctly without a classical education, in face of the fact that the three great masters of English, Shakespere, Bunyan and Bright, were not classical men. They were masters of English because they knew no other language. An effort has been made to raise the scholastic, as well as other attainments of the dentist, of which I most heartily approve. What I deny is the claim that it trains his mind to think, or assists him, except in a remote degree, to become a better dentist. If he is going to rely on the school to fit him for his profession, he is leaning on a weak reed. While I urge the highest possible education for the coming dentist, what I oppose is making his scholastic acquirements rather than his practical knowledge of dentistry the test of his right to practice. Provide for the dentist every opportunity for education in every department of art and science on which he may desire to enter, and give him diplomas which are genuine proofs that he has reached these high standards of learning; but let his license to call himself a dentist depend entirely on the production of the evidence that his fingers and his eyes have been so educated that he can properly practice dentistry. If we can have in dentistry a high standard of scholastic attainment, combined with practical knowledge, it will be all the better for our profession; and I shall greatly rejoice. But what we are to guard against is the superstition and conceit of the imperfectly educated men, who fancy that, if they do not know much of dentistry, they know a little of something else; and also that spirit of protection which is so loudly condemned, and, at the same time, so largely fostered in this country; for the folds of an anaconda could not sooner crush out the life than these evils. When they have seized a profession, there is always an effort on the part of the least worthy members (because they are the first to feel competition), now that they have secured their license to practice, to keep raising the merely scholastic standards, to keep out as many new comers as possible. This will be fatal to dentistry. Life has its limits, and if the best years of the student is to be employed with the school, and not the surgery and workshop, then the dentist of the future may shine as a "prig," but he will not be capable of fulfilling his duties.

TREATMENT OF PULPLESS TEETH

DR. A. G. ROSE, CINCINNATI.

We find pulpless teeth in four conditions. The first is where little pain attends the death of the pulp, the surrounding parts in a normal condition, and the tooth somewhat discolored. These are usually discovered by the dentist, much to the surprise of the patient, who has experienced no discomfort, and is astonished at the condition the tooth presents. It is needless to go into detail of methods here; each of us has some favorite plan valuable from long experience. Let me here call your attention to some of the new and old remedies used for the purpose: Sanitas oil, eugenol oil, peroxide of hydrogen, bichloride of mercury, carbolic acid and iodine equal parts, salicylic acid, iodoform, creosote, carbonate of soda, tannin. In this condition it is not good practice to push through the apical foramen and draw blood, carrying particles of débris. It will create inflammation, wound the pericementum, and leave a weak point for cerimental trouble to originate in the future. It is better to give rest and gentle treatment, complete removal of all disintegrated pulp, and disinfect to the utmost. Should the pulp not be removed soon after devitalization, or before putrescence occurs, sulphureted and phosphureted hydrogen gases rising from the decaying pulp may escape through the foramen, particularly when the cavity of decay is closed, and irritation and inflammation of the tissues surrounding may be induced, especially when the cavity of decay is closed. This irritation may be excited by the gas, and by particles of the pulp, or any foreign matter which may be forced through the foramen during the cleansing of pulp chambers. Following these causes, and often rising during treatment, are we confronted with this second condition: "Pulpless Teeth accompanied by pericementitis." The opening of the pulp cavity or the removal of dressings, if treatment for disinfection is in progress, will generally give relief in a few hours. Depletion of the gum, the careful and complete removal of all calcareous deposits about the necks of the teeth and necrosed portion of the alveolar border will sometimes be all that is necessary. The applications to the gum over the affected tooth of a tinct. of aconite and iodin, equal parts, painting the face along the course of nerves and blood vessels with a mixture of chloroform and tinct. of aconite, using capsicum plaster, and continuing them for sometime after relief is obtained, will greatly assist in effecting a cure. In this and the two following conditions, constitutional treatment will be of great benefit, and is sometimes necessary to produce beneficial results. Often in pericementitis, treatment directed to the system will be of greater avail than local applications. Anodynes, tonics, and cathartics, are used to the effect desired. In all stages of treatment, we

cannot do better than to insist on the continued use of mouth washes, the list of which is headed to-day by Phenol Sodique and Listerine. When pericementitis continues, the result is usually the formation of a sac at the end of the root which is a product of plastic pericementitis as seen under the microscope. If the sac is composed of dense fibrous connective tissue, the inner surface of the sac is not smooth, but largely provided with irregular protrusions or papillary outgrowths of a myxomatous structure crowded with inflammatory elements. This is the third condition, Pulpless Teeth with an Abscess, without an external opening. In this stage where the pulp has been dead for some time and abscess in its incipiency, or, where it is gone to such an extent as to prevent rebuilding of the tissues surrounding the end of the root, it is sometimes necessary to carry a small drill just through the foramen, so as to make a fresh wound and secure healing by first intention. So long as putrescent tissue remains in the pulp chamber, and the mephitic gas rising from it escapes through the apical foramen, so long may the production of pus corpuscles continue. This transformation of the tissue that is destroyed into "pus" should be changed and the parts gotten into such condition as to favor a return to normal, else the abscess may become chronic. There are two methods in vogue for the treatment of this stage. Injecting the disinfectant through the root and into the sac by means of a finely pointed syringe, and carrying a piece of floss silk or cotton saturated with the remedy, into the canal and through the foramen with a broach. The chloride of zinc can be used to advantage in this latter way, and solutions of carbolic acid, bichloride of mercury, peroxide of hydrogen, nitrate of silver, in the former. When the application is made by means of placing pieces of silk or cotton in the root canal, and the medicinal effect of the remedy desired for a few days, it is best to seal the cavity of decay with a preparation of gutta-percha and wax, or some good temporary stopping instead of the old method of a pellet of cotton saturated with gum sandarac. You receive the blessings of your patient, and achieve better results. In the last condition of "Pulpless Teeth with an Abscess, and a Fistulous Opening," it is proper after removing all disintegrated pulp tissue, enlarging the pulp canal and fistulous opening, to force an escharotic or disinfectant through the apical foramen into the sac and the fistulous opening if possible, this will bring about a healthy condition of the tissues involved at the point of the root; will prevent further disintegration, the continuance of "pus" production, and the rebuilding of the "gum" tissue at the external opening. In bad cases of chronic abscess, it will be necessary to enlarge the fistulous opening, and with a bur or abscess knife cut away all necrosed alveolus sac, and also portions of tooth substance, if necrosed. This rarely

fails to effect a complete rebuilding of new tissue. Care must be taken that the opening on the "gum" does not close before reformation of tissue has taken place. The use of Dr. Farrar's syringe in this condition is good. An invention by Dr. Watt, called the Exhaust Syringe, is particularly adapted. By its means medicine in proper quantity can be drawn directly through the pulp cavity, sac and sinus, and is what is termed an artificial leech. This is a great improvement on the old method of injecting medicine through root, sac, and sinus, and the consequent excoriation of the soft tissues of the mouth, which is entirely prevented by the exhaust syringe. The exhaustive action of the artificial leech is designed to promote the collapse of the sac walls in contradistinstion to the distending effects of the common force pump process, and may presumably hasten the obliteration of the sac.

—*Ohio State Journal.*

SANDPAPER DISKS.

B. H. TEAGUE, D. D. S., AIKEN, S. C.

The use of sandpaper in the form of disks, with the dental engine, as a means of polishing, has undoubtedly increased the percentage of succesful fiillings in teeth, as much if not more than any other one thing employed for the perfection of operative work. With the proper grits the superabundance of a filling may be so rapidly cut away and the surface so beautifully polished, that no operator seldom needs other means for the purpose. So effectually have these disks served me, that I am prompted to give a few suggestions in their use calculated to make them more serviceable in the hands of others.

The plain flat disk is useful on a nearly flat surface, but at every point that the surface of of a tooth is approached it is convex, so that instruments are needed to curve the disk to the proper embrace. These are unhandy. The depressed disk meets all requirements with little aid from the left hand. First, in the choice of disk mandrels, I would use a partingnut mandrel, No. 302. I have tested every other advertised, and find this the best for strength of grip on the disk and ease of manipulation. With a small pair of plyers, the nut may be firmly held and easily run on or off by forward or reverse motion of the engine. With a steady-working hand-piece, a firm hand, and a coarse disk, proximating fillings may be quickly separated. Followed by one or more disks of finer grit, the fillings are nicely cut down to the surface required and the contour preserved; but especially may the cervical edge be dressed without painful cutting of the gum—as is the case when tape or strips are used. To facilitate work and give strength to the disks, being thin, I use two cuttle-fish disks, back to back between proximal fillings, after sandpaper. To finish fissure fillings

is not an easy task; but put on the mandrel a corrugated soft rubber disk, No. 12, and next a sandpaper disk a line larger. Convex the disk, and run the edge in the fissure, pressing the rubber disk well on the other. The edge of the paper will soon lap the rubber, and the filling will be better done than if corundum or steel points were used. To finish those bothersome labial cavity fillings, half under the gum use a disk of similar size, backed with a No. 11 corrugated rubber disk, and one is surprised at the result. The rubber disk gives the paper strength, and at the same time, while cutting like corundum, it leaves a polish on the surface. A fine finish or polish may be made after cuttle-fish paper, with disks of crocus cloth. Should heavy work be required of the sand-paper disk, it is well to support it with a depressed "bright metal shield." It will then be almost as efficient as the corundum or the hard-rubber disk. The greatest drawback to the use of sand-paper disks is the heat produced by the friction. By running the engine slowly, this, to an extent, is avoided, and finishing of fillings is rendered comparatively comfortable. Decidedly so in comparison with the pain experienced from files, saws and strips.

Sand-paper found a place in the laboratory before it entered the operating room; and, with all the means used, what has surpassed it for dressing down a rubber plate to a smooth, even surface? But the "thumb and finger rub" is slow and tiresome. We have a substitute for the latter in the work of a sand-paper disk backed with the soft rubber disk. Fit to a lathe a parting-nut mandrel somewhat larger than No. 302, for the engine; put on it two "C" corrugated soft rubber disks, and then a convexed depressed disk. Used thus, supported with elastic cushions, the sand-paper cuts and dresses as evenly as when "thumb rubbed." When used with steel, or other rigid carriers, the sand-paper cuts deeply into the plate, and leaves "scratches" that even "oil and plaster" will not "hide." After filing to shape, there is no necessity for scraping—a coarse sand-paper disk will do all that a scraper can, and, too, on the roughest of plates. It truly satisfies one by the manner in which it cuts away around and between the teeth and dresses an air chamber.—*Southern Journal.*
[For a final finish, crocus cloth disks are good.—[ED. ITEMS.

THE transgression which the United States is now committing, licensing the liquor saloon, costs its people $900,000,000 yearly, and at least 75,000 lives; involves untold sorrow, privation and misery to millions, and sows the seed for a future harvest of woe at which the imagination stands appalled.

PROXIMAL CAVITIES IN INCISORS AND CUSPIDS.

DR. J. B. MONFORT, FAIRFIELD, IOWA.

[Read before the Iowa State Dental Society, 1886.]

There are no surfaces of the teeth that succomb to the ravages of decay as often as the proximal surfaces. And after his best efforts no cavities baffle the dentists' skill like those on these surfaces. Why? Their location is more favorable to decay, but I fear the reason often is carelessness. Unless cavities of decay are properly and thoroughly prepared, the most artistic filling will fail. How often we see a beautiful filling, surrounded by a wall of disintegrating enamel.

It requires more good judgment, more brains, to properly prepare a cavity than to fill it.

In this paper I only wish to consider the preparation of the smaller cavities found on the proximal surfaces, involving perhaps from one-third to two-thirds of the entire surface, not those involving the whole surface.

Having one of these cavities, the first thing necessary is sufficient space between the teeth, if not already spaced; for this use a wedge of dry cotton, sometimes a wedge made from the handle of a palm-leaf fan is good, or, if the teeth are very close, use rubber to start them, then cotton.

After gaining the necessary space, if the teeth are sore, fill in between the teeth solidly with gutta-percha for a day or two, till the soreness passes away.

With a chisel remove all frail walls, cutting enough away to gain free access to the cavity. With a spoon excavator remove the debris from the cavity, wash out with tepid water—cold water, never. Having ascertained the extent of the decay, apply the rubber dam. Dry the cavity with an absorbent, then cut away the chisel or bur all disintegrated enamel. It is not always necessary or advisable to remove all decayed dentine, but it is absolutely necessary to remove all enamel that shows the least signs of disintegration; and more than this, we should remove beyond what we can detect with the naked eye to be unhealthy enamel, a portion of apparently healthy enamel, so that we may be positive that there are no germs of disease left, then we have a healthy wall of enamel for our filling to rest against.

But just here dentists differ: some advocate extending the cavity up to the free margin of the gum and down to the cutting edge. This is done in anticipation of decay taking place in the future, either above or below the filling. This is certainly anticipating too much.

We are sometimes justified in sacrificing good healthy tooth bone for fear that it may decay in the future, but not often. We usually find the tooth at this point extremely sensitive, especially when we cut

into the healthy portion, and I do not think we are often warranted in extending these cavities far beyond the limit of decay. It is cruel to cause our patients to submit to such treatment.

We hear and read a great deal about so forming cavities, that when filled, the filling will touch or "knuckle" against the opposite tooth or filling. This is usually good advice, but it is often carried to the extreme. The center of decay is seldom found at the point of contact of the teeth, but a little above or below the point of contact, where the fluids of the mouth are held by capillary attraction. Consequently, if we do not have the point of contact between the filling and opposite tooth, or between filling and filling far enough from the edge of the filling, so that the fluids held there by this capillary force will not extend to the edge of the filling, the chances of decay taking place at the edge of the filling are far greater than if the point of contact was at the union and filling of tooth.

Unless we can form these cavities so that the fluids held between the teeth will not reach the edge of the filling, it is just as well to pay little attention to the "knuckling" of the fillings. It rarely requires the sacrifice of much of the tooth, to get the lingual and labial walls at a safe distance from the point of contact, and it should be done. If I could always have my ideal proximal cavity to fill, it would be so formed that, when filled, the filling would "knuckle" against the opposite tooth, the edges of the filling being far enough from the point of contact, so that the fluid held between the teeth would not reach to any portion of the filling's edge, and the necks of the teeth would be so far apart that they would always wash clean. But unfortunately we have to take these cavities as they are, and not as we would have them.

In regard to the preparation of the interior of the cavity, the walls being properly cut away, the cavity must be formed so as to hold the fillings secure, a little larger inside than at the periphery. It requires our best judgment to determine in each case how to best make our undercuts and pits. No set of rules can be laid down to govern the operator in all cases.

The starting pit should be made usually in the cervical wall, at a point fartherest from the place we enter the cavity; grooves should be made inside the cervical wall and toward the cutting edge, if the shape of the cavity and tooth will permit. Where the grooves shall be made depends largely on the shape of the cavity. Grooves and pits should be made as far as possible in the dentine and not at line of union of the dentine and enamel. We all know how easily the enamel rods chip off when the dentine is removed from under it. This is one of the main reasons that fillings fail so often on the proximal surfaces of the inferior incisors. The lingual and labial walls of enamel come so near together

as they approach the cutting edge, that it only takes a small cavity to destroy all the dentine, leaving nothing but walls of enamel to support the filling, which easily chips or cracks. Deep undercuts and pits should be avoided; leave thick, strong walls if possible, polish the edges with emery strips, leaving the edges somewhat beveled, and the cavity is ready to fill.

After filling these cavities, before dismissing our patient, tell them where decay is most likely to take place about the fillings in the future; impress on them the necessity of keeping the filled surfaces clean, and in after years they will thank you for not causing them to submit to the torture of cutting away an unnecessary amount of that extremely sensitive dentine, even if at the end of five, eight or twelve years it becomes necessary to have them refilled.

If it were possible for us to keep track of all proximal cavities that we fill, I feel confident we would find the small fillings stand just about as well as those covering the entire proximal surface. We fill a great many more and of course more failures. We must expect failures, for so long as teeth decay and are filled, so long will there be failures. But I wish to repeat that many of these failures come from a want of care in removing all enamel that is not healthy. How often have we had a cavity just ready, as we thought to fill, perhaps have had pieces of gold in place, when we detect a defective point that we have overlooked, and is it not safe to assume that sometimes we have entirely overlooked such a point, and thus left a starting point for decay which will result in the loss of the filling, and we give the tooth the blame?

—*The Archives of Dentistry.*

STANDING OF DENTISTS IN THE INTERNATIONAL MEDICAL CONGRESS.

Resolved, That the regular graduates of such dental and oral schools and colleges as require of their students a standard of preliminary or general education, and a term of professional study equal to the best class of the medical colleges of this country, and embrace in their curriculum all the fundamental branches of medicine, differing chiefly by substituting practical and clinical instruction in dental and oral medicine and surgery, in place of practical and clinical instruction in general medicine and surgery, be recognized as members of the regular profession of medicine, and eligible to membership in this Association on the same conditions and subject to the same regulations as other members.

Dr. Davis, in introducing the resolution, said he wished to explain its object. There are two to be had in view: First, to relieve a degree of embarrassment that exists between the regular profession as we

consider it and the profession of dentistry. The department of dental and oral surgery is a part of the profession of medicine as much as the department of ophthalmology or otology, or any other ology. Our teeth and mouths are a part of our system as much as any other part, and are used more than any other part. The embarrassment is this, that in the history of the development of dentistry it originated mostly in mechanical operations. Steadily it has advanced, and in years gone by—quite a number of years ago—our lamented S. D. Gross made a proposition that an oral and dental section be provided as a section in this association. It was seconded by Dr. Sayre and myself, and it was organized. The International Medical Congress of 1881 provided a section for dental and oral surgery. The Congress to be held in Washington has done the same, and it will be one of the most thorough and best organized sections in the Congress. There is an embarrassment in this respect: It is to know just who, and by what line of demarkation, those engaged in that department shall be recognized as members of the regular profession. Now it is proposed to make a line and draw it where this resolution places it, that all those who are qualified by general education and a course of study equal to the best medical colleges, a curriculum embracing the entire fundamental principles of medicine, with the provision that instead of special instruction in clinical medicine, instruction may be had in dental and oral surgery, such shall be recognized as members of the profession of medicine. It will take away a sort of embarrassment. There is a far-reaching and more valuable underlying object in this resolution, and that is, that to be recognized as a member of the profession, if this resolution is adopted by this body, they must have the education received in schools that require these qualifications; it makes a strong lever to lift up the course of study in the dental schools. Such are my reasons for bringing up the resolution.

The motion was made that the resolution be adopted by the Association, and it was carried unanimously.

Germany, according to the Minister of Finance, annually spends $500,000,000 on liquor and tobacco.

Philadelphia has 6,059 licensed liquor saloons, or about one to every 160 inhabitants, or to every 26 voters, or 10 saloons to every church.

An illustration of British fondness for beer is the fact that already a brewery is being erected in Mandalay, the capital of Burmah, so recently captured by their troops.

The discreditable fact is stated that since the occupation of Egypt by the British army, intemperance has greatly increased, and there are now between 400 and 500 drinking houses in Cairo where previously there was scarcely one.

ALVEOLAR ABSCESS AFTER FILLING ROOTS.

Sometimes a pulpless tooth comes to us for treatment, having a blind abscess at the point of one or more roots. This condition is not always recognizable. We cleanse and disinfect the tooth, fill permanently, and expect to hear no more about it. Such is not always the case. The patient continues to complain of soreness in the alveolus over the region of the root (it is a curious fact that there is seldom any inflammation of the pericementum, or soreness on occlusion in these cases), and after some time, it may be weeks or months, the abscess points externally, and we open it. Does it get well? Not much. Should the dentist indulge in vain regrets about not having kept the thing open longer? No; if the canals were thoroughly clean, what possible good could come of keeping it open! He has done exactly right, and as far as he has gone the work is complete. No thought of removing the filling should be indulged a moment, but after evacuating the pus inject a little Lugol's solution of iodine into the sinus, and it will get well.

The iodine solution may usually be introduced on a broach, as into a pulp canal; thus, wrap a little absorbent cotton on a broach, dip this into a solution, and pass gently along the track of the sinus. It is best to use for this purpose the broaches made of gold wire, as iodine rapidly corrodes and renders brittle the steel instruments. Occasional difficulty is encountered in finding access to the cavity of the abscess along the track of the sinus, and here the hypodermic syringe may be brought into requisition.

We have sometimes found it necessary to make a direct opening into the cavity of the abscess with a spear drill in the engine, but when practicable we prefer treating the entire pus track with the iodine solution, it being lined throughout with a pyogenic membrane, which it is our object to break up.—NOEL, *Dental Headlight.*

CONNECTICUT'S SKELETON.

Any State without a dental law has a skeleton in the closet. Connecticut's law, just passed, is simply the first step toward bringing this skeleton out and clothing it. Hence the step is not to be ridiculed, though the law is the shortest on record, and seems ridiculously simple and easy to operate, compared with other dental laws. But the absence of any State Dental Society prevented the usual examining board, even if this were necessary; thus, a certificate from any state dental examining board—as a diploma from any regular dental college—was accepted as sufficient. Then the bill shuts out the opening up of three months' students by requiring two years' pupilage and one course of dental lectures. Thus, it is evident the bill is much

better than none; and yet the "profession" of the State, in its distrust of getting any law, had let the time of introducing new bills pass within a few hours, when I consulted a representative professional dentist of Hartford as to the most we could probably get in a dental law, and had the bill introduced. I can but think there is merit in the simplicity of the law, aside from the greater assurance of getting such an one over the stereotype form. We were assured such an *ex-post-facto* law as that of Indiana was unconstitutional, however desirable it might be to compel a better qualification of many dentists already in practice. I repeat, it is fully expected to make this Connecticut skeleton of a law respectable by future additions, while claiming quite satisfactory results for our first efforts. C. C. DILLS, D. D. S.

Our Remedies.—As our knowledge of pathology increases we need to reorganize our therapeutics. The practical value of iodoform is generally conceded; the disadvantages of offensive odor, toxic and irritant effects, under certain conditions, have been overcome by the substitution of salol and iodol, both being free from odor and other disagreeable qualities. The crystals of salol, applied to a cavity in a living tooth, cause no pain. It is indicated in acute and chronic gingivitis, and is microbicide in dilute solutions. Iodol is indicated wherever iodoform was formerly used. It is particularly useful in sluggish abscesses, in gangrenous conditions of the gums and mucous membrane. A much more stable substitute for peroxide of hydrogen is offered in ozonic ether. Lanolin is a new vehicle for the external application of drugs for the relief of pain; it is readily absorbed by the unbroken skin. Equal parts of menthol and thymol, rubbed together, liquify and make an efficient pain obtunder.

Men of Mars who quail before Tooth-tinkers.—Having occasion to visit a dentist the other day, I asked him if I was the most nervous man he ever had in this chair. "Bless you, no," replied the tooth-tinker. "You are only about the average patient; it would surprise you to see how some of the big men act when they come here to get there teeth fixed. General Sheridan, for example, is one of the worst men in a dentist's chair you ever saw, and General Logan is even worse than he. Why, Logan is as tender as a baby, and will shrink at the slightest touch on his nerves, while I suppose, there were never two braver men in battle than they. General Sherman, too is about as bad, and acts as if he were going to have a fit whenever the drill is put into his teeth. He jumps, and grunts, and groans, and takes on worse than if he were having his leg cut off."—Washington letter in *Chicago News*.

THE LIFE OF THE TOOTH-PULP.

PROF. CARL HEITZMANN, OF NEW YORK.

This has been the subject of careful researches in my laboratory by Dr. Bödecker. It was known that it consists of a delicate myxomatous, a living jelly-like tissue, which at the points of intersection shows thickenings called nuclei, evidently the centers of nutrition, or rather centers of life. There is a network in the shape of delicate fibrils, between which lies the basis-substance that we call myxomatous. Both the fibers and the myxomatous basis-substance are the seat of life, both being pervaded by living substance. The pulp is one of the few myxomatous tissues in the human body that remain myxomatous in the adult. While in the embryo there is present a great deal of myxomatous tissue, nay, originally every variety of connective tissue is myxomatous in nature, yet about the time of birth we have only the unbilical cord, the placenta, the vitreous body of the eye, and the pulp tissue. The tissue of the pulp remains myxomatous or jelly-like during life. We know that as soon as the pulp assumes the features of fibrous connective tissue we must consider this condition as morbid. A pulp that has once been the seat of inflammation will become hyperlastic and cicatricial or fibrous. The myxomatous tissue of the pulp is pervaded by many nerves. They run in bundles in the shape of a medullated nerves, which, as they approach the periphery, become non-medullated and send numerous off-shoots toward the periphery of the pulp tissue, where the dentine is located. Here we find bodies in rows, having the aspect of epithelia, called odontoblasts, which are invariably present whenever the tooth is fully developed and is in a condition of comparative rest. I lay stress on this fact, for. it seems, as shown by an article that I received a few moments ago on the development of the emamel, that it is difficult for some histologists to understand that a tissue once formed is not permanent, and does not retain a permanent form during life-time. What I said about the tissues changing their shape and place during life in general holds good with respect to the single elements. We have been told that after the so-called cell has formed, it could not change farther. But, on the contrary, I am convinced that such changes occur through the life-time of the person, and invariably takes place during the growth of the tissues. I am convinced that these odontoblasts are formations to be found only at comparative rest, when there is no change going on toward a new formation or growth. As soon as such growth is going on, we see the odontoblasts no longer in the shape of epithelial bodies; they are transformed into medullary or embryonal corpuscles. We can prove that changes in the pulp tissue for the transformation of one tissue into another, namely, into dentine, can take place only through the intermediate stage of embryonal tissue and embryonal corpuscles.

PREVENTIVE DENTISTRY.

DR. W. N. MORRISON, ST. LOUIS.

That we, as a profession, make our living from the results of the negligence of our patrons in not properly caring for their mouths, all must admit. Of a thousand carious cavities filled, nine hundred and ninety-nine might have been prevented from decay; and of the thousands of fillings made, how many of them prevent the loss of the pulp, or the teeth themselves, and really prevent the use of crockery substitutes? Our artificial way of living is largely responsible for these ravages by decay. The chemically-prepared groceries, and the fermented fruits and vegetables, transported from long distances and climates, added to soft, sloppy, cooked mixtures of lemons, eggs, milk and sugar, enter now largely into our daily diet; the tendency being all the time towards preparing dishes that will melt in the mouth, rather than those that are healthful to the dental organs, and thereby healthful to the body, such as tough meat, hard bread, and simply-prepared articles that require physical force in mastication. The former articles are not insalivated as they pass through the oral cavity; and the secretions that are furnished by the glands and membranes, from all such diet, are really of a chemical nature, which dissolve, not only any food which may be left in the mouth or between the teeth, but the teeth themselves. This food not having any physical resistance, mastication is not necessary, and insalivation not important, and the secretions of the organs of the economy are acid; added to these unhealthy surroundings, the period of rest or stagnation, if I may so call the interval between meals and during the night, these impure secretions become more erosive by being retained in the warm surroundings, and these mephitic odors and gases are very perceptible to our associates, though the patients may pride themselves on being very tidy and cleanly about their mouths. It is only necessary, to convince to the contrary one who imagines that his mouth is in good hygienic condition, to let him pass a thread or quill tooth-pick between the teeth in unfrequented regions, and to put it to his nose, when he will understand why decay could so readily occur. It is not the perversity of human nature, but the ignorance of the importance of thorough cleanliness, that makes so much work for dentists. A proper, thorough, and skillful application of the tooth-brush is practiced by few. It is really a work of art to cleanse teeth and the oral cavities, tonsils, fauces, so they will bear a critical examination. The Chinese have a professional, whose duty it is to pick and cleanse the teeth, while caring for the other special organs of the head.

The natives of India, in performing the mysteries of their toilet,

while brushing the teeth and mouth, run the primitive banyan-root brush down the throat so far and make such retching, hawking and spitting, that the uninitiated would imagine that some terrible calamity had befallen the victim's gastric region. Instruct your patients to brush after meals and before going to bed, with water; and often hot water is required. Use a medium sized brush of medium strength of bristle, with an upward and downward motion from the gums to the edges of the teeth, making the bristles act as so many tooth-picks, forcing and lifting out particles of food. Do not recommend the frequent use of any dentifrice, for to their excessive use can be traced nearly all cases of abrasion. Our whole duty is to do our operations the best that circumstances and attending conditions will admit, and give the patient careful instruction to prevent all further destruction of these most valuab'e organs; for, if like conditions are allowed to continue, similar destruction will be inevitable. Dentistry, like medicine, should seek to prevent these large mouths full of dentistry, and should prevent decay in the deciduous teeth.

The dentist should instruct the patient in the care of the teeth; and step by step, as the new ones come forward, they should be cleansed, brushed, and picked, and cared for in such a manner that decay would not occur. Then in the ideal future, when we can see our patients with a sound mind, in a sound physique, supported by food masticated with sound teeth, the pinnacle or highest result of dentistry will have been reached.—*Archives of Dentistry.*

Treatment of Alveolar Abscess.—No tooth that has any inflammation on it, though it may have a dead pulp, is a dead tooth. If there is any periosititis the tooth cannot be dead; and whether the fistula opens in the mouth or outside, I would not extract the tooth. I would disinfect the passage by pumping through it any of the ordinary remedies, such as creosote and oil of cloves in equal parts, or chloride of zinc, or elixir of vitriol. Any of those agents will disinfect it sufficiently, so that you may not need any other treatment; nature will take care of it. And do not be afraid of disinfecting at that very sitting. If the opening of the fistula is outside of the face I would advise another mode of treatment, which would be to lift up the lip and make an incision, so as to have the fistula in the mouth instead of through the face, to avoid a scar. Scar tissue is less endowed with life than is primitive tissue. It is made of fibrous connective tissue sparsely supplied with vessels, and that fibrous connective tissue has a tendency always to contract as long as the patient lives; scars always become small because the elasticity of this special fiber, and the contraction makes a little pit.

As to these remedies, there is not so much difference in them as is

supposed. They are all made of different equivalents of C H O or the carbo-hydrates. Each one has had its run, iodoform, perhaps, being the favorite now. It is good, and so are the per-oxide of hydrogen, elixir of vitriol and eucalyptole.—*Wm. H. Atkinson.*

How Shall We Eat?—The people of Yarkum eat their dinner backward: First, fruit and sweets, then meat, and last of all soup.—ITEMS OF INTEREST for June, '87.

And are they not at least in part as near right as we are? For the best conditions for digestion the gastric juices should be as little diluted as possible, and there is no doubt it is more abundant at the beginning of a meal than at the end. If we dilute it with a dish of soup what more direct way could we adopt to retard digestion?

But if we eat the meats and other articles, slow to digest, first, the full strength of the gastric juice is put where it will do the most good. Soup is easily digested of itself, and can be taken with impunity (and a spoon) after a comparatively full meal of solids. At least there are people who can take solids and soup in this order that would pay a heavy penalty in "sick" headache should they reverse the order.

So it is with oat meal and cracked wheat porridge, in cream or milk, with sugar. The fashionable way is to make them the entrée, to be followed with meats and other substantials. This is as sure to bring on a fit of indigestion with some people as the soup taken first. And no doubt the tendency is the same in all cases, though some people have stomachs that will stand almost any abuse for a part of their lives at least, and what is one man's meat may be another man's poison. At fashionable hotels one ordering his soup or porridge last would be looked on as a lunatic, notwithstanding the fact of his being the only sensible man to the scene.

Manatee, Fla. W. E. DRISCOLL.

Snobbery in the Land of Snobs.—A curious little story was told me illustrative of the snobbishness of London society and of the real kindness of heart in the family of the Prince of Wales. There is in London an American dentist who is very skillful in his profession, and amongst other people has attended the Princess of Wales. He was invited to one of the annual garden parties at Marlborough House. and met there nearly fifty of his patients. They cut him to a man, Soon after he found himself face to face with the Prince and Princess, and they at once gave him the most cordial reception, and shook him warmly by the hand. At once every one of the fifty patients pressed up to the lucky dentist and shook hands with equal warmth.—London letter in the *Sheffield Independent.*

PACKING FLASKS.

Editor ITEMS: Let me chip in my mite as regards packing flasks for vulcanizing. Unless the teeth (either gum section or plain) are very close indeed to the gums, the plaster can be brought right over the cutting edges or grinding surfaces, down to the wax on the lingual aspect of the plate. By using a deep lower part and setting the case well down the ridge of plaster over the teeth, can be so strong as not to break in closing the flask. Pour out the wax with boiling water, and with a warm flask and rubber, and a little patience, all points can be reached for packing. Cut waste gates, if wanted (I never make any), pack, cover lower half with wet cloth, screw parts together lightly in a vise, open, and you can be cocksure as to whether you have too much, too little, or just enough rubber. If the teeth are too close to the gum to pack under, cut holes in the plaster half way between the teeth and the edge of flask, at an angle to reach the rubber above the cervical edge of the teeth, and pack through these. By this method you avoid any DIRECT pressure against the teeth, and so get no bad joints or broken sections, and also get the bite you had to start with. My experience of teeth in one-half and model in the other, has almost always been a slight rising of the teeth and opening of the bite. The only trouble in this way from an excess of rubber is a slightly thicker plate. For this idea, as for many others, I am indebted to the *British Workman*.

CHARLES RATHBUN.

London.

Our Right to Live.—Nothing has a right to live without it performs some usefulness. The moment an animal, or plant, or any part of either, ceases to perform some useful function, though it may linger for a time, it has already its death warrant. The parasitical and pauper spirit is not an element of life, but one of death. On the other hand, what defies the ravages of time must have some useful work to perform, which can be done by nothing else. There is no place in political, moral, or material life, where we can rest and be thankful; a stern necessity, which is as unalterable as the laws of the Medes and the Persians obliges us to be up and doing. Indeed, it is the eternal law that the idle and the useless must go to the wall, however much the idle and the useless may deplore such a hard fate. This is in spite of a poor's law which provides food and clothing for vagabond's, the multiplicity of charities, the societies for the preservation of the aborigines of the countries were industrious people are pouring in, who can live on a hnndreth part of the land required to keep one savage, and the frantic efforts of men to provide fortunes for their children to support them in that idleness which the ignorant and vulgar regard as the distinctive future of gentility.—*Dr. Parson Shaw, of England.*

DEATH OF DR. J. R. WALKER, OF NEW ORLEANS.

The demise of this successful and highly esteemed dental practitioner on the 22nd of June last is quite unexpected. He appeared to be in his usual health till within a few months of his death. He has been so prominent among dentists, specially in our conventions, that he will be missed by many who have been edified by his instructions and stimulated by his zeal. He leaves a wife and five children. These children are all under age. The oldest boy, who will follow his father's profession, has his college course yet before him; the other boy is eleven; the oldest daughter has another quarter, before graduating from the Normal School. The other two are still school girls.

This dear woman, with the entire maintainance and education of all these children on her hands, is as well known to fame as the husband, though under a nom de plume. For some time she has been a successful reporter of conventions to dental journals. Under her nom de plume of "Mrs. M. W. J." she wrote a series of letters to the *Southern Dental Journal* on children's teeth, which were afterward brought out in pamphlet form by Dr. B. A. Catching, editor of the journal; when two editions were exhausted, the pamphlet was materially enlarged and improved, and brought out by the Welch Dental Co., of Philadelphia, as a neat little book. In this form it has had quite a sale. It is a cheap and admirable work for distribution among patients. As the sale of this little work will be now a welcome means of support, let us specially commend dentists to buy specimen copies, 25 cents each, and see if they cannot find it to their interest to distribute a few hundred among their patrons.

We sincerely sympathize with this lonely widow and these fatherless children, and we believe the whole profession joins us.

Short Cuts in Laboratory.—Varnish lead air-chambers with silex, just before packing rubber, to keep from leaving the black stain on plates.

To reproduce a fractured plate, bring parts together and fasten with wax; pour plaster on palatine portion, and after it hardens invest as if it were wax. Heat in dry cast porringer, till flask opens easily; remove rubber, cut vents, and proceed as usual. The plaster is much strengthened by the heating. WALTER STUART, D. D. S.

Encourage Genius and Independent Skill.—Ruskin says of painters: "A common mind usually stoops, in plastic chill, to whatever is asked of it, and scrapes and daubs its way complacently into public favor. But your great men quarrel with you, and you revenge yourselves by starving them for the first half of their lives."

For Our Patients.

HOW OLD ARE YOU?

Not years but acts give life its age.
The hero for life's vantage ground
Is surely crowned an honored sage
Though youthful; and the thoughtless found
Four-score is but a blank in death.
A hundred years of life ill-spent
Is but a foolish dream. A breath
Of heavenly inspiration lent
From lips of tender love to breathe
On misery, or warm tears sent
As sparkling pearls to make a wreath
About the head of some one fallen,
Counts ages to the one that's saved
From sin and earth to love and heaven.
The sturdy soldier that has braved
But one brief battle that, without
Him, would have made a nation's crime,
Has made his life immortal. Stout
Hearts count their lives by deeds, not time.

By such a rule, how old are you?
Count up the mile stones of your deeds!
How many? Ah, how very few!
Long reaches without any! Leads
This thought to betterment of life?
From *now* is life made sacred to
Inspiring thoughts? to noble strife?
To be of use? to dare to do?

T. B. W.

What is a gentleman? We hear a good deal from a certain class about the education of a gentleman, as if the school manufactured that article, instead of its being the outcome of the home training of generations in the practice of courtesy and of virtue. One of those persons once defined, for our edification, a gentleman to be a man who had been taught how a thing should be done, but was in a position to direct some one else to do it. If that definition is correct, it is certain there can never be any gentlemen in dentistry, or dentists among gentlemen; for if the dentist does not do it himself, it will never be done properly. But this definition of a gentleman, though common enough among those who are not gentlemen, and are more intrusive than intelligent or refined, is both vulgar and inaccurate.

ONE STANDARD FOR BOTH SEXES.

BY SAMANTHA ALLEN.

Josiah Allen's children have been brought up to think that sin of any kind is just as bad in a man as in a woman; and any place of amusement that was bad for a woman to go to was bad for a man.

Now, when Thomas Jefferson was a little feller, he was bewitched to go to circuses, and Josiah said:

"Better let him go, Samantha; it haint no place for wimmen or girls, but it won't hurt a boy."

Says I, "Josiah Allen, the Lord made Thomas Jefferson with jest as pure a heart as Tirzah Ann, and no bigger eyes and ears, and if Thomas J. goes to the circus, Tirzah Ann goes too."

That stopped that. And then he was bewitched to get with other boys that smoked and chewed tobacco, and Josiah was just that easy turn that he would have let him go with 'em. But says I:

"Josiah Allen, if Thomas Jefferson goes with those boys and gets to chewin' and smokin' tobacco, I shall buy Tirzah Ann a pipe."

And that stopped that.

"And about drinkin'," says I, "Thomas Jefferson, if it should be the will of Providence to change you into a wild bear, I will chain you up, and do the best I can by you. But if you ever do it yourself, turn yourself into a wild beast by drinkin', I will run away; for I never could stand it, never! "And," I continued, "if I ever see you hangin' round bar rooms and tavern doors, Tirzah Ann shall hang too."

Josiah argued with me. Says he:

"It doesn't look so bad for a boy as it does for a girl."

Says I, "Custom makes the difference; we are more used to seeing men. But," says I, "when liquor goes to work to make a fool and a brute of anybody, it don't stop to ask about sex; it makes a wild beast and idiot of a man or a woman, and to look down from heaven, I guess a man looks as bad layin' dead drunk as a woman does."

Says I, "Things look differently from up there than what they do to us—it is a more sightly place. And you talk about *looks*, Josiah Allen. I don't go on clear looks, I go on principle. Will the Lord say to me in the last day, 'Josiah Allen's wife, how is it with the soul of Tirzah Ann ———? As for Thomas Jefferson's soul, he bein' a boy, it hain't of no account.' No! I shall have to give an account to Him for my dealin's with both of these souls, male and female. And I should feel guilty if I brought him up to think that what was impure for a woman was pure for a man. If a man has a greater desire

to do wrong—which I won't dispute," says I, lookin' keenly onto Josiah, "he has greater strength to resist temptation. And so," says I, in mild accents, but firm as old Plymouth Rock, "if Thomas Jefferson hangs, Tirzah Ann shall hang too."

I have brought Thomas Jefferson up to think that it was just as bad for him to listen to a bad story or song as for a girl, or worse, for he had more strength to run away, and that it was a disgrace for him to talk or listen to any stuff that he would be ashamed to have Tirzah Ann or me to hear. I have brought him up to think that manliness didn't consist in having a cigar in his mouth, and his hat on one side, and swearin' and slang phrases, and a knowledge of questionable amusements, but in layin' holt of every duty that comes to him, with a brave heart and a cheerful face; in helpin' to right the wrong, and protect the weak, and makin' the most and the best of the mind and the soul God had given him. In short, I have brought him up to think that purity and virtue are both feminine and masculine, and that God's angels are not necessarily all she ones.

CLEANING TEETH.

DR. CLOWES, NEW YORK.

There is nothing, except doing good professional work on the teeth, that is so important as to have our patients know how to take care of their teeth. If we cannot get the patient to take care of his teeth we are at sea. We have no safety, for, however well we do our work, the teeth will get out of order and become diseased again. I take as much pains in my practice to teach my patients how to take care of their teeth as in doing my work. I will tell you how it is that patients are not able to take care of their teeth. For instance, a patient comes to me with a number of proximal cavities; I put in a jack-screw, crowd those teeth apart, and fill them. When I am done the teeth are as close together as they were when he came. I ask the patient to brush his teeth and keep them clean. Can he do it? I think not. The condition of things is the same as it was before. If I expect my patient to do his duty by himself, I must put him in a position where he can do it. I find those teeth decayed because they were close together; therefore I separate them in such a way and fill them in such a way that he can brush between them. In the first place, how wonderfully near being right Dr. Abbot was when he said you want a straight surface,—that is, a flat brush. There is no other that deserves the name of brush at all.

I tell my patients there are three motions in brushing teeth; the first is an up-and-down or perpendicular motion, brushing the gums as

well as the teeth, with a moderate pressure, so as to bring the bristles between the teeth where you want them. Then there is another motion I call the transverse motion, and lastly an undulating motion. I tell the patient that, of all places in the mouth they must be particular about, these buccal surfaces are the most important; the ugliest decays that we have to deal with appear there, and to prevent that they must allow the brush to go down on the gum and remove any particles of food that collect there. The brush must go down into a valley of deposit to keep the teeth sound. If the brush is held properly it will touch all those places that are to be cleaned, and a brush with a perfectly straight surface will work admirably,—precisely as you want it. Having separated teeth properly, you can brush between them. But there are little points of contact that should be left, forming what I call the proximal arch, where a silk floss of about half the size of the ordinary kind will work beautifully in cleansing those surfaces. Then rinse the mouth with moderately cold water. In those three things you have the most perfect means of taking care of the teeth,—the brush, silk floss, and rinsing the mouth. You having done your duty, and taught your patients how to do theirs by these simple means, the teeth will be permanently saved. But you must impress on your patients that cleanliness, of the teeth as well as of the person, is next to godliness.—*First Dis. Den. So., of N. Y., in Cosmos.*

SPIDERS.

DR. T. B. WELCH:

Dear Sir:—You seem to give credit to the statement that the American spider is not poisonous. I was surprised. It is well known here that there are many varieties of poisonous spiders, all of them giving rise to local trouble. Some produce an abscess, attended with pain in the parts immediately affected. But there is one of a blackish color, with a small red spot on its back, which is nearly as deadly as a rattlesnake. During our late war I was taken by an army surgeon to the hospital to witness the effect of the bite of one of these spiders. The patient saw the spider when he assailed and bit him, and described him accurately; was not frightened by it, but observed it closely, because he was surprised to see him make fight. I have never witnessed more agonizing results. Intense pain down the spine and very difficult breathing. The surgeon informed me afterward that he had great difficulty in preventing death. I know of a number of other similar cases. This spider is about ¼ inch wide on the back. He will assail you as quickly and viciously as a rattlesnake.

Enfield, N. C. E. L. HUNTER.

Editorial.

THE PENDULUM OF LIFE.

The waves come and go, come and go; it is sunshine then shadow, sunshine then shadow; the storm rushes on us, then the calm; the north wind chills, then the south wind burns. As the great world whirls round and round, comes the brightness of the day, and the darkness of the night. "Now is the winter of our discontent;" then we bask to weariness in the enervating sunshine of summer's heat. In the mighty swing of the world from one extreme of the elipsis to the other, winter chases spring into summer, and summer chases fall into winter again. Everything in nature comes and goes, comes and goes; ever from one extreme to another, all its motions are to and fro, to and fro; advancing, receding; inspiring, depressing; promising, eluding; giving life, giving death. Thus swings the pendulum of the world's life.

Our life is much the same: it is wakefulness, then slumber; strength, then weakness; activity, then lethargy; ambition, then indifference; growth, then decay. It is valiancy, fight, aggression, then a receding almost into cowardice; joy, then sorrow; hilarity, then remorse; love, then aversion. The pendulum of life brings us to the extremity of every condition, relation, and experience; we swing to the repletion of fulness, then to the keenness of hunger; we are in the possession of every luxury, then in the deprivation of every comfort; we are bounding in the glory of health, then suffering the extremity of pain; we are in the height of prosperity, then in the depth of poverty. You wonder why we cannot remain between these extremes? A few do,—a class of goody, neutral, useless souls. But to enjoy the sweets of exhilaration, we must struggle from the lethargy of enervation; to feel the luxury of rest, we must come from the sweat of toil; to find the road to enduring wealth, we must commence with the struggle of poverty. The really good things of this life can only be enjoyed and appreciated as they come through endurance, self-poise, and vigorous manliness, which give us brawn of body, mind and spirit. The child born with silver slippers, the boy who fishes with silver hooks, the young man who has his father's pocket book, is seldom a success. Those who would be a force in the world must know the depth of humility, and from thence experience the glory of exaltation.

The coarse, useless, shapeless clay must be pounded and refined and kneaded to be fit for the potter's wheel; and on the wheel it must

be beaten and whirled about and made capable of being brought into shape and comeliness; even then, before usefulness, fire,—fire to test, toughen, strengthen, and perfect, and then removal to a place of honor. It is the illy prepared and half-baked clay that is useless. First, thorough discipline, then eminent usefulness. We cannot always control the use a well-made vessel is put to, but it certainly will be of use somewhere, somehow, sometime. You may be despised to-day, but esteemed to-morrow; now seem to be useless, then employed for some noble purpose; now hidden, then renowned; now insignificant, then mighty. The main thing is to be well made, well tempered by the process of development and culture, and perfected by the fire of adversity and discipline, so as to be fitted for anything to which Providence sees fit to assign you; for His pendulum not only moves the world forward, but attracts the forces fitted for its progress.

If we are found worthy to be thus used, it is not of great importance for the few moments we are here, whether we are loved by our friends or hated, honored or despised; whether we are buoyed up by the multitude, or trampled under foot by the rabble. As the pendulum swings, it may be one thing now and then the other.

What a variety of experiences the pendulum of life brings us. To-day we are absorbed in some pet enterprise, to-morrow it is relegated to obscurity. Now some faculty is aroused as though our very life seems dependent on its enjoyment, then tiring, we laugh that we were ever so foolish; others laugh quite as heartily as they see us catch hold on some other string and swing to its extremity. Now we run like a racer for some possession or position, then walk back ashamed of ourselves. Now we are so busy the day is too short, and the week is not long enough, then time hangs heavily on our hands. Now the world moves too slowly for our zeal, then rushes by while we dream.

Thus we find the pendulum of life ticks progress only by swinging to its extremes; to stop midway is death.

You hate extremes? The man whose ambition does not take him to the outermost of his investigations falls short of their advantages. The hobbyist who pounds away at one idea, the enthusiast who stretches every nerve to grasp the unseen, the radical who rushes ahead of the multitude, destitute of all decency and decorum, is each a benefactor. But, as the pendulum swings, the hobbyist passes from sight, while those who laughed at his hobby enjoy the result of his wisdom; the enthusiast becomes exhausted, but the multitude is enriched by his thoughts; the radical is a martyr to his reform, but his death wakes the world.

The progress of the best causes is not constant. Like the waves of the sea, it may carry everything before it for a time, then it is forced to

recede. Again it rallies, and again suffers defeat. But alternations of advances and recessions bring final victory.

In our best schemes and most pleasing labors, we cannot keep ourselves at a tension. Every faculty after severe service, must have rest. After every battle there must be inactivity. So extreme is the sensation from aggression and passion to defence and calm, that the bravest hero may at times be thought a coward, and the strongest zealot an infidel; but nature demands these extremes, and we must be subject to them.

The life so sheltered that it never feels rough service in the world's whirl-wind of contending forces, is not of value. The aggressive man who is not opposed, is seldom successful. The child brought up in luxury, at maturity is weak, useless and dependent. The boy who does not swing from the comforts, indulgences, and quiet of home into the outer storm blast of the cold world, and alternate between dependence and independence, instruction and skill, enjoyment and endurance, will grow up puny and worthless. He must be moved and swayed and molded by the conflicting forces of life's actualities, necessities and trials, so as to experience the difference between innocence and virtue, knowledge and wisdom, theory and practice. To produce growth and progress, maturity and brawn, nobleness and usefulness, he must know success and adversity, quiet and turmoil, discipline and triumph. In this way must the pendulum of his life go to and fro, to and fro.

To make a perfect tree, it must have the genial sunshine to expand its leaves and draw sap into every part; but, to produce strength, growth and maturity, the drawing rays of the sun must be followed by the moisture of shade, the heat of summer by the frosts of winter, the calm breezes by the fierce storms. If it could speak, its speech might be as ungrateful and unreasonable as man's clamoring for all sunshine, and warmth, and pleasure; but God knows that animate and inanimate nature needs to sway on the pendulum of extremes to produce perfection.

Cheap Intellectual and Mechanical Training.—The Claflin University, College of Agriculture and Mechanics Institute, of Orangeburg, S. C., commends itself to every young gentleman and lady who would economically and yet thoroughly prepare themselves for the actual duties and emoluments of a high order of social life. How all these privileges can be given for $50 a year is beyond our comprehension, and yet this is the announcement. Of course, manual labor is required from each, and this reduces expenses, but at the same time this becomes an essential of physical education. It is a wise union of intellectual and manual labor. At this price who need be debarred from a good education? And with such an education who need go begging for pleasant and lucrative employment?

OUR WANTS AND OUR NEEDS.

It is not so much the striving for what we need that makes us tired, as for what we want. It is not so much the unrequited calls of our natural desires that makes us miserable, as the relentless cravings of our abnormal passions. Our natural needs are few and our healthy appetites are easily satisfied; but like foolish infants, we are continually reaching for the forbidden, and wanting what our needs have no proper use for. We make wants by foolish indulgences and extravagances, or, in our pride, by imitating the indulgences and extravagances of our neighbors, and then sacrifice our money and our time and our peace for them, as though they were our needs. Scarcely one of us would be poor if we were content with satisfying our needs; scarcely one of us would be miserable, if to satisfy our healthy appetites, we consulted only our normal hungers. Foolish things consume our precious time, handicap our energies, and blind us to the riches of simplicity, innocence and peace.

Half of all we spend to appear well is superfluity; half of what we spend for food and drink is worse than unnecessary; and half our time is spent worse than idly. Yet we complain we have no time for many important things, no money for many home comforts, and, *of course*, "nothing to wear."

Cry a halt and consider these things. Bring wife into the consultation and seriously examine your outgoes. You will both be astonished to see what you could each forego, yet be happy. Of course, cutting off superfluities will need a little curbing of pride, breaking loose from expensive and injurious habits will need a little self-sacrifice, and crushing idols now unconsciously worshiped will need a little missionary work; but once free you will be astonished at the pleasure, ease, and economy of your life. Is not this wealth?

Popular Lectures on Dentistry.—A fine way of doing good and improving one's standing in community is to give short, racy, instructive lectures before societies and schools. Many dentists who think they have no talent for such an effort would find the preparation for it a good discipline, and its performance more creditable than they may think possible. Many of us have latent gifts we know little of. Of course, it will not do to attempt such a thing without thorough preparation. All great successes have been preceded by much study and concentrated effort.

Dr. Swengel, of Aberdeen, Dak., sends us a local paper, in which is a popular lecture of his, on dentistry, delivered before the public schools of that town. It is a creditable effort, and no doubt will have a salutary effect. Let others imitate his example.

Platina or Platinum? Platina was discovered by the Spaniards in South America in 1741, at the base of the mountains, and given that name, which means *little silver*, on account of finding it in little silver granules.

Platinum is an arbitrary name. According to present accepted chemical nomenclature it is unlawful. Sir Humphrey Davy, at the beginning of the present century, suggested that the names of all elements discovered after 1781? end with the suffix *um*. His suggestion became a law.

The following metals do not take, therefore, the suffix *um:*

Antimony, zinc and bismuth, discovered in the fifteenth and sixteenth centuries; arsenic and cobalt, in 1733; platina, 1741; nickel, in 1751; manganese in 1774, and tungsten in 1781.

A student may therefore know that any metal or other element whose name ends with the suffix *um*, was discovered since the year 1781.

In mending plates, whether metal or rubber, it is not generally well to bring the crack together. The plate cracked probably because some teeth struck more forcibly than others, and thus were the cause of the spreading afterward. Therefore, either shorten these offending teeth or mend the plate spread as you find it. Sometimes the spreading is caused by the unequal shrinking of the jaw under a temporary set. Then, if the crack is brought together, there must be rubber substituted for the shrinkage, or else the plate must be mended in its spread condition.

Study Your Medicaments.—This is specially good advice to beginners in dentistry, though we have found practitioners of long experience very ignorant of the medicaments they were using almost daily; they used them imperically. It is much better to have a few medicines thoroughly understood than to be constantly experimenting with a great number. How many know the difference between creosote and carbolic acid? And why they use one in a given case in preference to the other? No agent should be used till we can tell ourselves distinctly *why* we use it; what effect we have a right to expect from it. To do this we must also learn clearly and thoroughly the nature of the disease to be treated.

The Dental Motor, manufactured by the Detroit Motor Co., Detroit, Mich., is one of the most complete electric motors for dental use we have ever seen. We advise every dentist to at least send for their circular, and examine details.

The Baltimore Dental College has this year graduated a large class, —ninety-one.

Dr. L. P. Haskell.—Our readers will miss Dr. H.'s article in this issue, promised as a continuance of able one of last month. They will still more regret the cause of its non-appearance,—an accident by which he has lost the sight of one of his eyes. The following letter will explain:

Editor ITEMS: The reason why you have not received the article in question is, that I have had the misfortune to destroy the sight of my eye (the right). It occurred two weeks ago, at my home, in a singular way. In the evening I stooped to pick up something from the floor, and the hanging lamp was dropt lower than usual, and as I raised my head it hit it, and that of course made me dodge, and in doing this, the eye came with such force in contact with the post of a rocking-chair, that the doctor says the retina is detached. There is no sight; can barely distinguish the light. I have no pain or discomfort from it; but have been using the other eye, but favoring it in not reading nor writing to any extent. I fear I shall not be able now to get a paper ready in season.

This is the first accident I ever met with. What is it for at 61 years of age? It is not explainable just yet, but is doubtless all for the best. I accept the result, and do not worry.

Chicago, July 9, '87. Yours truly, L. P. HASKELL.

How Dr. Haskell's instructions have been received is partly evinced by the many letters we receive of commendation. As a sample take the following extract:

. . . "Doctor, what I specially write you now for is to thank you for Dr. Haskell's very sensible and practical criticisms in the ITEMS OF INTEREST on the *American System of Dentistry*, which I sincerely hope will be continued, for I feel that the profession at large will be greatly benefited thereby."

Let us hope the doctor's *one* eye will be of greater service than the *two* eyes of many others. But if he should lose the sight of both, his instructions in prosthetic dentistry will be given to the profession in a permanent form, for just before this accident he had sent us for publication in book form his *System of Prosthetic Dentistry*, which we hope to put on the market by November first, and which we are confident will be generally appreciated.

We Impress Ourselves on Our Work.—Is it clumsily and slovenly done? It is the shadow of our character. Is it mere glittering show, with hidden parts sadly imperfect? It is the impress of the hypocrite, boasting, "We all have cloaks." Do we stoop to do the bidding of the ignorant, the miser, and the time-server,—the bidding of any who will pay for our services? We may hide our cash, but our work takes on our likeness, and walks about town hawking our selfishness and our short sighted cupidity.

THE AMERICAN DENTAL ASSOCIATION.

CHICAGO, June 25, 1887.

All railroads west of Chicago, and from Chicago leading to Niagara Falls, will carry members and delegates of the American Dental Association at one and one-third fares.

READ THE RULES CAREFULLY.

"Each delegate must purchase a first-class ticket to place of meeting for which he will pay the regular fare and on request, the ticket agent will issue to him a certificate of such purchase.

If through tickets cannot be procured at the starting point delegates will purchase to the most convenient point where such through tickets can be obtained and re-purchased through to place of meeting, requesting a certficate from the ticket agent at the point where re-purchase is made.

Tickets for the return journey will be sold by the ticket agent at the place of meeting at one-third the highest limited fare only to those holding certificates signed by the ticket agent at the point where through ticket to place of meeting was purchased and countersigned by the secretary or clerk of the convention, certifying that the holder has been in attendance on the convention."

Tickets are good, going, three days before the meeting and returning three days after its termination.

A. W. HARLAN,
Chairman Executive Committee.

P. S.—Equally favorable rates are expected from the South and East.

The Three Great Meetings.—The *American Dental Association* is to meet at Niagara Falls, Tuesday, August 2d; the *Southern Dental Association* will meet at Old Point Comfort, Va., Tuesday, August 30th; and the International Medical Congress, at Washington, Sept. 5th. These are each important meetings; and favored indeed will be those who can attend all. The Southern Association will end just in time to take steamer from Old Point Comfort to be in Washington at the beginning of the International Congress. A fine steamer has been chartered for this purpose.

Spiritualism.—Prof. J. G. Garrettson is about bringing out a book on this subject, which will probably attract attention, if only on account of the high source from which it comes. It is titled "Nineteenth Century Sense, the Paradox of Spiritualism." Farther notice will be given when the book comes from the press, which will be simultaneous in England and in this country.

Miscellaneous.

WAR ON THE WEED.

A bill is now before the Legislature of Illinois prohibiting the sale or furnishing to minors under sixteen years of age, of tobacco in any form, except at the written request of parents or guardians. The penalty for each violation of the law is $20. The better class of newspapers throughout the State, and especially the *Inter-Ocean* and the *Evening Journal*, and of course all the religious papers, have come out strongly for the bill. The *Advocate* says that the stories which, all over the State, but especially in the cities, have public school children for their patrons, are spreading the evil with alarming activity. Boys of from six to ten years of age may be seen on the streets or in the alleys smoking by turns at the two cigarettes which have been bought for a penny, while parents and teachers are almost helpless to prevent.

The same paper reminds its readers that as a result of careful scientific investigation, the Emperor Napoleon, in 1862, prohibited the use of tobacco in the government schools of France. Later investigations in the same country have fully established the fact that physical and mental weakness followed the use of tobacco by the boys; and that the younger the boys the worse the effects. Germany has partly followed in the same line. In this country Congress has forbidden the use of tobacco among the cadets in the Naval Academy at Annapolis. This order was based purely on the ground of the injurious effects of tobacco upon the physical and mental powers of growing boys. New Jersey and Massachusetts, and some other States and Territories, have passed laws to prohibit the sale of tobacco to minors under sixteen years of age.

MAKING AN EXPERIMENT.

Let us make an experiment. Here is a boy ten years old who has never used tobacco.

"Charley, will you help us to make an experiment?"

"I will, sir."

"Here is a piece of plug tobacco as large as a pea. Put it into your mouth; chew it. Don't let one drop go down your throat, but spit every drop of juice into that spittoon. Keep on chewing, spitting, chewing, spitting."

Before he is done with that little piece of tobacco, simply squeezing the juice out of it, without swallowing a drop, he will lie here on the platform in a cold, death-like perspiration. Put your finger upon his wrist; there is no pulse. He will seem for two or three hours to be dying.

Again, steep a plug of tobacco in a quart of water, and bathe the neck and back of a calf troubled with vermin. You will kill the vermin, and if not very careful you will kill the calf too. These experiments show that tobacco, in its ordinary state, is an extremely powerful poison.

Go to the drug store; begin with the upper shelves and take down every bottle; then open every drawer. You cannot find a single poison

(except some very rare ones) which, taken into the mouth of that ten-year-old boy, and not swallowed, will produce such deadly effects.—*Dio Lewis.*

GOVERNOR LOUNSBURY'S STAFF.

HE INSISTS THAT TEMPERANCE PRINCIPLES MUST BE OBSERVED.

Governor Lounsbury is a strong temperance man. A few nights ago, accompanied by his staff, he attended the Blues' ball in this city. In the course of the evening he suddenly entered a side room in time to discover two of his staff, Colonel S. B. Horne, of Winstead, and Surgeon-General C. J. Fox, of Willimantic, in the act of drinking the health of General S. R. Smith in a glass of punch. In an instant he took the officers' arms, and said:

I want it distinctly understood that no man can drink intoxicating liquors in public and remain a member of my staff.

The colonel and general were too much astonished to reply, and quickly putting down their glasses they left the room. Governor Lounsbury then filled a glass with lemonade, and said:

General Smith, I will drink your health in a manner that cannot possibly result in injury to either of us.

SUCCESSFUL MEN—HOW THEY GAINED WEALTH.

Amos Lawrence said, when asked for advice: "Young men, base all your actions on a principle of right; preserve your integrity of character, and doing this never count the cost."

A. T. Stewart, merchant prince of New York, once said: "No abilities, however splendid, can command success without intense labor and persevering application."

The world-renowned Rothchilds ascribe their success to the following rules: "Be an off-handed man; make a bargain at once; never have anything to do with an unlucky man or plan; be cautious and bold."

Edward Everett said: "The world estimates men by their success in life, and, by general consent, success is evidence of superiority."

The Bible says: "Seest thou a man diligent in business, he shall stand before kings; yea, he shall not stand before mean men."

Franklin quoted and verified this. —*Luminary.*

Hay Fever.—Those who suffer from hay fever will doubtless only be too glad to learn of any successful method of treatment. Dr. W. T. Phillips, of Andover, recommends belladona, which he has found successful (*Br. Med. Jour.*, July 14, 1883). In the same journal (June 7, p. 1090) he gives the dose as 1¼ minims of the succus every hour till relieved (30 min. to 3 oz. of water.) For coryza, Dr. G. E. Dobson recommends (*Lancet* May 31, p. 978) the inhalation of the vapor of camphor and steam, the vapor being made to come in contact with the outer surface of the face, surrounding the nose by means of a paper cone placed with the narrow end downward into a vessel containing

hot water and a dram of coarsely powdered or shredded camphor. If this is continued ten or twenty minutes at a time, and repeated three or four times in as many hours, a cure is usually effected.—*Pharmaceutical Journal.*

Tannin for Ingrowing Toe-Nail.—A concentrated solution (an ounce of fresh tannic acid dissolved in six drams of pure water, with a gentle heat) must be painted on the soft parts twice a day. Two persons thus treated recently had no pain nor lameless after the first application, and went about their work immediately, which they could not do before. After about three weeks of this treatment, the nail had grown to its proper length and breadth, and the cure was complete. No other treatment was used, though formerly I introduced lint under the ingrowing edge.—*British Medical Journal.*

New Mode of Preparing Oxygen.—Into a suitable generating apparatus introduce two pints of commercial solution of peroxide of hydrogen (3 per cent) and a pound of dilute sulphuraic acid (1·5). Into this mixture allow to enter gradually through a safety funnel a solution of 800 grains of potassium permanganate in 28 fluid ounces of water. Oxygen will be rapidly disengaged without application of heat, the yield from the above quantity of materials being five gallons.—*Bulletin de Pharm. de Lyon, Arch, de Pharm.*

Seventy-five cents worth of iron ore made into

Bar iron is worth	$5 00
Horse shoes	10 50
Table knives	180 00
Fine needles	6,800 00
Shirt buttons	29,480 00
Watch springs	200,000 00
Hair springs	400,000 00
Pallet arbors	2,577,505 00

—*Bethlehem (Pa.) Times Correspondent.*

To make liquid glue, take a wide-mouthed bottle, and dissolve in it eight ounces best glue in ½ pint water, by setting it in a vessel of water, and heating until dissolved. Then add slowly 2½ ounces strong nitric acid 36° Baume, stirring all the while. Effervescence takes place, with generation of fumes. When all the acid has been added, the liquid is allowed to cool. Keep it well corked, and it will be ready for use at any time.

To Restore Gloss to a Silk Hat.—When a silk hat becomes wet, or from other causes has lost its smoothness and gloss, cleanse it carefully from all dust, then with a silk handkerchief apply petrolatum evenly, and smooth down with the same handkerchief until it is dry, smooth, and glossy. This will make a silk hat look as good as new.

A company has been formed in Boston to manufacture "sugarin" from starch. They claim that this substance is sweeter than sugar, and that starch yields 99 per cent of it when treated according to their secret process.